Los Alamos
NATIONAL LABORATORY

Service Academy Research Associates
Student/Faculty Program

Research Opportunities at Los Alamos

Los Alamos National Laboratory

The Los Alamos National Laboratory is a major research and development center operated by the University of California for the U.S. Department of Energy. Our primary mission is to apply science and engineering capabilities to problems of national security. This mission has expanded since the Manhattan Project to include a broad array of conventional defense, civilian, and industrial programs where science serves society. At Los Alamos, we investigate a multitude of phenomena that extend from the earth's interior through its atmosphere and magnetosphere into outer space, from subnuclear particles to galaxies, from events occurring in trillionths of a second to those that take thousands of centuries, and from temperatures near absolute zero to those measured in tens of millions of degrees.

SARA Program

The Service Academy Research Associates (SARA) Student/Faculty Program provides challenging opportunities to participate in Laboratory research programs as visiting staff; to learn about Los Alamos' role in national security, defense, and civilian programs; and to foster a long-term interest in science and technology. The program, for eligible cadets/midshipmen, and faculty from the U.S. Military Academy, the U.S. Naval Academy, and the U.S. Air Force Academy, is a special employment and educational program administered by the Department of Defense (DOD) Programs Office at Los Alamos, in cooperation with the Service Academies.

Student/Faculty Assignments

The DOD Programs Office at Los Alamos issues an annual call to technical divisions interested in hosting students and faculty. Academy-nominated students/faculty are then matched with host organizations based upon interests and accomplishments documented on the Student/Faculty Application Form. Faculty are also encouraged to participate in an effort to strengthen research knowledge, develop curriculum, and possibly facilitate collaborative research. Academy-nominated faculty are then matched with host organizations based upon interests. Assignments are designed to afford an opportunity to engage in hands-on, applied research under the direct mentoring of a technical staff member. In typical assignments, students and faculty have:

- Used gas chromatography to investigate catalysis reaction rates for dehydrogenation of butane using microwave energy deposition;
- Applied mass spectrometry to vaporization chemistry and

thermodynamics of plutonium oxychloride;
- Benchmarked system performance of Asynchronous Transfer Mode (ATM) networks and switches;
- Measured and analyzed response of manganin pressure gauges to shock waves as a function of orientation of incident shock plane;
- Assisted in the operation, maintenance, and modification of the Relativistic Electron Beam Experiment (REX) Accelerator for photo-cathode experiments;
- Performed cost analyses of alternative siting for a major hydrotest facility as part of an Environmental Impact Statement (EIS); and
- Characterized titanyl nitrate decomposition reactions using thermogravimetric analysis, mass spectrometry, and X-ray powder diffraction.

Work Environment

Student and faculty assignments usually begin during the late spring and early summer months, immediately after completion of spring semester classes. Students and faculty are at the Laboratory from 4 to 6 weeks, subject to summer schedules. The normal work schedule is Monday through Friday, 8:00 a.m. - 5:00 p.m., unless otherwise arranged with the visiting staff's supervisor. Training is provided for all special and potentially hazardous activities. The dress code is informal civilian attire.

Clearances

SARA students and faculty are granted Secret RD and Secret NSI clearances for the duration of their stay. Access to classified information is based on assignment and need-to-know guidelines.

Arrangements

The DOD Programs Office at Los Alamos serves as the coordination point for assignments. Transportation to Los Alamos is provided by the Academies. Lodging at Los Alamos is typically in a double-occupancy room (2 individuals per room), with semi-kitchenette, and breakfast is provided. Local rental cars (3 to 4 people per car) are pre-arranged by Los Alamos. Students and faculty are given a $38 per diem allowance. All costs are reimbursed by Los Alamos.

Los Alamos

Los Alamos is located in northern New Mexico, 100 miles north of Albuquerque. At an elevation of 7,300 feet, Los Alamos enjoys a semi-arid, mountain climate. At this altitude, the air is thinner and the sunshine stronger than at sea level. The area receives about 18 inches of precipitation yearly. Summer temperatures range from the 80's during the day to the 50's at night. Outdoor recreational gear is recommended for your visit.

Eligibility

Service Academy students during the junior (2/C)/senior (1/C) summer with a GPA of 3.0 or above are eligible. The Academy points of contact will be responsible for selection and nomination of qualified cadets/midshipmen, and faculty.

How to Apply

Contact your Service Academy representative:

U.S. Military Academy
Dr. Stephen Landowne, 914/938-5868

U.S. Naval Academy
Professor David Correll, 410/293-6651

U.S. Air Force Academy
MAJ Timothy Landvogt, 719/333-1689

Los Alamos Point of Contact

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